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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,630	09/07/2005	Thomas Chudoba	CHUDоба, T. ET AL 1 PCT	9445
25889	7590	03/13/2007	EXAMINER	
WILLIAM COLLARD COLLARD & ROE, P.C. 1077 NORTHERN BOULEVARD ROSLYN, NY 11576			DUNLAP, JONATHAN M	
			ART UNIT	PAPER NUMBER
			2855	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/13/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/532,630

Applicant(s)

CHUDOBA ET AL.

Examiner

Jonathan Dunlap

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 5-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date See Continuation Sheet
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :April 25, 2005/April 24, 2006/May 15, 2006.

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## **DETAILED ACTION**

Receipt is acknowledged of Applicant's preliminary amendment dated April 24, 2006. The amendment to the specification, drawing and the claims has been placed on the record. **Claims 2 and 4** have been cancelled. **Claim 1,3 and 5-13** are pending in this application and an Office Action on the merits is to follow.

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Specification***

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.

- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1, 3, 5-9** are rejected under 35 U.S.C. 102(b) as being anticipated by **Cleveland et al. (U.S. Patent 6,246,052)**.

Considering **claim 1**, Cleveland discloses a test table for measuring lateral forces and displacements, if necessary with the simultaneous use of normal forces, particularly in nano-indenters as well as in scratch and wear testers, whereby the test table is mounted to be laterally movable and the lateral force and displacement can be determined by way of measured-value acquisition, wherein:

- The test table **29** is attached between at least two leaf springs (**32 A-D, 50**) that stand perpendicular and can be deflected laterally in the direction of the lateral (horizontal) movement of the test table that is to be produced (**Figure 2B; Column 5, lines 15-29; Column 7, lines 27-63**); and
- The leaf springs (**32 A-D, 50**) are attached to a frame **39,41** at their lower end **36** and at their upper end **34**, and the table **29** is attached to the leaf springs (**32 A-D, 50**) between their lower end **36** and their upper end **34** (**Figure 2B; Column 5, lines 30-54**).

Considering **claim 3**, Cleveland discloses that the leaf springs (**32 A-D, 50**) have a bias/tensile stress applied to them (**Figure 3-4; Column 7, lines 64-67; Column 8, lines 1-34**).

Considering **claim 5**, Cleveland discloses that the test table **29** is essentially attached at the center of the leaf springs (**32 A-D, 50**) (**Figure 2B; Column 2, lines 41-48**).

Considering **claim 6**, Cleveland discloses that the test table **29** is suspended on the leaf springs (**32 A-D, 50**) on a small surface as compared with the length of the leaf springs (**32 A-D, 50**) (**Figure 8**)

Considering **claim 7**, Cleveland discloses that two leaf springs, (**32 A-D, 50**) in each instance, stand opposite one another as a leaf spring pair (**Figure 2B; Column 5, lines 15-21; Column 8, lines 7-17**).

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Considering **claim 8**, Cleveland discloses that the test table **29** is disposed between several leaf spring pairs (**32 A-D, 50; 26,30,50**), disposed next to one another (**Figures 2A-2B; Column 5, lines 15-21; Column 8, lines 7-17, lines 37-52**)

Considering **claim 9**, Cleveland discloses that the thickness of the leaf springs (**32 A-D, 50**) is approximately greater than/equal to their lateral deflection (**Figure 7**).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 10-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Cleveland et al. (U.S. Patent 6,246,052)** in view of **Meier et al. (U.S. Patent 3,982,738)**.

Considering **claim 10**, Cleveland fails to disclose that the test table is connected with a damping unit.

Considering **claim 11**, Cleveland fails to disclose that the damping unit is an oil bath disposed below the test table into which a damping element disposed on the test table dips.

5. However, Meier teaches:

Considering **claim 10**, that the test table **22** is connected with a damping unit **20,24,12** (**Figure 1; Column 2, lines 26-32**).

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Considering **claim 11**, that the damping unit is an oil bath **10** disposed below the test table, **22** into which a damping element **20,24** disposed on the test table **22** dips (**Figure 1; Column 2, lines 26-40**)

6. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a damping unit that is an oil bath, which is disposed below the test table so that the damping element dips into the oil bath as taught by Meier in the invention by Cleveland. The motivation for doing so is found in the teachings of Meier, "Dash-pots are employed...when the paths of moving parts are very short and their velocity is small. However, dash-pots effective to impede slow oscillation must employ liquid damping fluids" (**Column 1, lines 8-17**).

7. **Claims 12 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Cleveland et al. (U.S. Patent 6,246,052)** in view of **Giannakopoulos et al. (U.S. Patent 5,999,887)**.

Considering **claim 12**, Cleveland fails to disclose that the test table has a sample holder that is structured to be movable vertically.

Considering **claim 14**, Cleveland fails to disclose that the measure-value acquisition to determine the lateral force and displacement takes place optically.

8. However, Giannakopoulos teaches:

Considering **claim 12**, that test table **26** has a sample holder **30** that is structured to be movable vertically (**Figure 1; Column 6, lines 50-67**).



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9. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a vertically movable sample holder as taught by Giannakopoulos in the invention by Cleveland. The motivation for doing so is to allow a course adjustment of the tip-to-sample distance.

Considering **claim 14**, that the measured-value acquisition to determine the lateral force and displacement takes place optically (**Column 7, lines 8-29**).

10. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate an optical method of determining a displacement and lateral force as taught by Giannakopoulos in the invention by Cleveland. The motivation for doing so is found in the teachings of Giannakopoulos, "the sensor can determine the displacement of the indenter relative to [the] surface" (**Column 7, lines 22-24**)

11. **Claim 13** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Cleveland et al. (U.S. Patent 6,246,052)** in view of **Field (U.S. Patent 5,067,346)**

Cleveland fails to disclose that the measured-value acquisition to determine the lateral force and displacement has a shaft that engages close to the sample.

12. However, Field teaches that the measured-value acquisition to determine the lateral force and displacement has a shaft **12** that engages close to the sample **13** (**Figure 2; Column 5, lines 17-59**).

13. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a shaft close to the sample in order to

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measure and record a displacement and a lateral force as taught by Field in the invention by Cleveland. The motivation for doing so is found in the teachings of Field, "the motion of the probe and the carriage are the same until the indenter contacts the sample surface and the springs deflect. This deflection is identical to the relative movement between the probe and the carriage and it is therefore precisely measured by the second measuring means. Consequently, the instant of contact between the indenter and the sample can be ascertained and the force acting on the probe can be precisely calculated" (**Column 5, lines 36-45**).

### ***Conclusion***


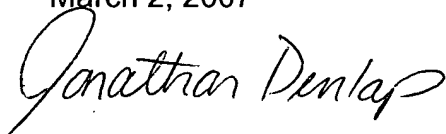
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. McCord, Hall et al., Hammond et al., Braunstein et al., Key, Tsuda et al., Mozgowiec et al., Lin, Neuman, Burton et al. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Dunlap whose telephone number is (571) 270-1335. The examiner can normally be reached on M-F 8-5 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jonathan Dunlap  
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March 2, 2007



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